



UNITED STATES PATENT AND TRADEMARK OFFICE

37

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,566	06/25/2003	Valerie Wittamer	9409/2045B	7945
29933	7590	01/19/2006	EXAMINER	
PALMER & DODGE, LLP KATHLEEN M. WILLIAMS 111 HUNTINGTON AVENUE BOSTON, MA 02199			LI, RUIXIANG	
			ART UNIT	PAPER NUMBER
			1646	

DATE MAILED: 01/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/603,566		WITTAMER ET AL.	
	Examiner		Art Unit	
	Ruixiang Li		1646	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10, 20 and 22 is/are pending in the application.
- 4a) Of the above claim(s) 6-9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 10, 20 and 22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06/25/2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/3/03 & 6/2/05</u> . | 6) <input checked="" type="checkbox"/> Other: <u>Sequence alignment</u> . |

DETAILED ACTION***Election/Restrictions***

1. Applicant's election with traverse of Group I (claims 2-4, 10, 20, and 22) and species of SEQ ID NO: 61 in the reply filed on 10/20/2005 is acknowledged. In view of Applicants' elected species, claim 5 will be included in Group I. The traversal is on the ground that the polypeptide of SEQ ID NO: 92 is common to the sequences of all three groups and therefore a search of Group I will necessarily encounter the sequences of Groups II and III. This is not found persuasive because while SEQ ID NO: 61, a single species of degenerate SEQ ID NO: 92, is common to the sequences of all three groups, not all the encompassed species are common to the polypeptides of all three groups. Moreover, even for the elected species, SEQ ID NO: 61, which is common to the polypeptides of all three groups, a search of SEQ ID NO: 61 is not sufficient for the search of other polypeptides. For example, if the prior art teaches polypeptide comprising SEQ ID NO: 61, it does not necessarily mean that the prior art teaches SEQ ID NOS: 12, 14, or 73. Thus, the polypeptides of Groups I, II, and III require non-cohesive searches and considerations.

Applicants also argue that claim 1 is a linking claim that links Group I to Group III. This is not persuasive because as written, the claims of Group III do not depend upon claim 1 and thus are not linked by claim 1.

The requirement is still deemed proper and is therefore made FINAL.

Art Unit: 1646

2. Applicants' preliminary amendments filed on 09/22/2003, 01/15/2004, 06/08/2004, and 03/24/2005 have been entered in full. Claims 1-10, 20, and 22 are pending. Claims 1-5, 10, 20, and 22 are under consideration.

Information Disclosure Statement

3. The information disclosure statements filed on 10/03/2003 and 06/02/2005 have been considered by the examiner.

Drawings

4. The drawings filed on 06/25/2003 are accepted by the Examiner.

Claim Rejections—35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 1-5 are rejected under 35 U.S.C. §101 because the claimed invention is directed non-statutory subject matter.

Claims 1-5, as written, do not sufficiently distinguish over a peptide that exists naturally because the claims do not particularly point out any non-naturally occurring differences between the claimed products and the naturally occurring products. In the absence of the hand of man, the naturally occurring products are considered non-statutory subject matter. See *Diamond v. Chakrabarty*, 447 U.S. 303, 206 USPQ 193 (1980). The claims should be amended to indicate the hand of the inventor, e.g., by

Art Unit: 1646

insertion of "isolated" or "purified" as taught by page of the specification. See MPEP 2105.

Claim Rejections—35 USC §102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-5 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Nagpal et al. (*J. Invest. Dermatol.* 109: 91-95, 1997).

Nagpal et al. teach a polypeptide that comprises the polypeptide of SEQ ID NO: 61 (see attached sequence alignment), meeting the limitations of claims 1-5 and 20.

9. Claims 1-5, 10, 20, and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Lal et al. (US Patent Application Publication No. 2005/0084936 A1, publication date: April 21, 2005; 102 (e) date: December 31, 1997).

Lal et al. teach a polypeptide that comprises the amino acid sequence of SEQ ID NO: 61 (see attached sequence alignment summary table), a pharmaceutical composition comprising the polypeptide (see [0028], [0305] to [0322]), and the

Art Unit: 1646

labeled polypeptide with fluorescent probe (see [0269]) or an epitope tag (see [0270]), meeting the limitations of claims 1-5, 10, 20, and 22.

Conclusion

10. No claims are allowed.

Advisory Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ruixiang Li whose telephone number is (571) 272-0875. The examiner can normally be reached on Monday through Friday from 8:30 am to 5:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brenda Brumback, can be reached on (571) 272-0961. The fax number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, please contact the Electronic Business Center (EBC) at the toll-free phone number 866-217-9197.

Ruixiang Li

Ruixiang Li, Ph.D.

Primary Examiner

January 6, 2005

GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.

OM protein - protein search, using sw model

Run on: December 2, 2005, 05:45:20 ; Search time 234 Seconds
(without alignments)
27.136 Million cell updates/sec

Title: US-10-603-566A-61
Perfect score: 51
Sequence: 1 YPFGPAPS 9

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 2166443 seqs, 705528306 residues

Total number of hits satisfying chosen parameters: 2166443

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

Uniprot_05.80.*

1: uniprot_sprot.*

2: uniprot_trembl.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	51	100.0	163	1	TIG2 HUMAN
2	51	100.0	163	1	TIG2 PONY
3	51	100.0	163	2	TIG2 HUMAN
4	47	92.2	163	1	TIG2 CRICR
5	47	92.2	163	2	O5BK77 RAT
6	44	86.3	1316	2	Q7MR17 WOLNELL
7	42	82.4	500	2	Q989D1 RHILLO
8	41	80.4	162	1	TIG2 MOUSE
9	37	72.5	186	2	O516H6 ENTHI
10	37	72.5	227	2	O6FFM5 ACINOBACT
11	37	72.5	258	2	Q7NAS9 MYCGLA
12	37	72.5	267	2	Q8SVC7 ENCCU
13	37	72.5	276	2	Q7NT09 CHRVO
14	37	72.5	338	2	Q9SUG3 ARATH
15	37	72.5	341	2	Q7QCL7 ANOCHA
16	37	72.5	342	2	O8AYE1 DROSOPHILA
17	37	72.5	342	2	Q9W0U5 DROSOPHILA
18	37	72.5	509	2	Q52LZ5 HUMAN
19	37	72.5	552	1	SCR11 HUMAN
20	37	72.5	564	2	O5A1A8 CANAL
21	37	72.5	569	2	O6BUU6 DEBHA
22	37	72.5	581	2	Q59PM4 HUMAN
23	37	72.5	636	2	Q7DL1 XYLFT
24	37	72.5	636	2	Q9PDC8 XYLFA
25	36	70.6	147	2	Q9QWK1 RAT
26	36	70.6	211	2	O5XSV3 LEGOPA
27	36	70.6	248	2	Q4ZM30 PSESSY
28	36	70.6	248	2	Q88AH9 PSESM
29	36	70.6	342	2	Q4J8W1 SULOBUS
30	36	70.6	378	2	O5L899 BACFR
31	36	70.6	378	2	Q64NJ9 BACFR

32	36	70.6	443	2	Q97WM0 SULSO
33	36	70.6	489	1	YM20 YEAST
34	36	70.6	586	2	Q8XPS3 RALSO
35	36	70.6	670	2	Q4QV2 LEISMANIA
36	36	70.6	681	2	Q87AV1 XYLFT
37	36	70.6	842	2	Q8PN87 XANAC
38	36	70.6	858	2	O5S157 RAT
39	36	70.6	861	2	Q4URW8 XANCP
40	36	70.6	861	2	Q8PEN1 XANCP
41	36	70.6	866	2	Q8OXL8 MOUSE
42	36	70.6	909	1	CNGB1 HUMAN
43	36	70.6	938	1	O77658 BOVIN
44	36	70.6	948	2	O77659 BOVIN
45	36	70.6	949	2	Q8DPM5 SYNEL

ALIGNMENTS

RESULT 1
TIG2_HUMAN STANDARD; PRT; 163 AA.
AC Q99959;
DT 30-MAY-2000 (Rel. 39, Created)
DT 30-MAY-2000 (Rel. 39, Last sequence update)
DT 10-MAY-2005 (Rel. 47, Last annotation update)
DE Retinoic acid receptor responder protein 2 precursor (Tazarotene-
DE induced gene 2 protein) (RAR-responsive protein TIG2).
GN Name=RARRES2; Synonyms=TIG2;
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Homiidae;
OC Homo.
OX NCBI_TaxID=9606;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RC TISSUE=Skin;
RX MEDLINE=97348957; PubMed=9204961; DOI=10.1111/1523-1747.epi2276660;
RA Nagpal S., Patel S., Jacob H., DiSepio D., Ghosh C., Malhotra M.,
RA Teng M., Duvic M., Chandraratna R.A.S.;
RT "Tazarotene-induced gene 2 (TIG2), a novel retinoid-responsive gene in
RT skin";
RL J. Invest. Dermatol. 109:91-95 (1997).
[2]
RC TISSUE=Gastric adenocarcinoma;
RX MEDLINE=99173880; PubMed=10072769; DOI=10.1016/S0378-1119(99)00004-9;
RA Yokoyama-Kobayashi M., Yamaguchi T., Sekine S., Kato S.;
RT "Selection of cDNAs encoding putative type II membrane proteins on the
RL cell surface from a human full-length cDNA bank";
Gene 228:161-167 (1999).
[3]
RC NUCLEOTIDE SEQUENCE [LARGE SCALE MRNA].
RX MEDLINE=22398257; PubMed=12477932; DOI=10.1073/pnas.242603899;
RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Haieh F.,
RA Diatchenko L., Marusina K., Farmer A.F., Rubin G.M., Hong L.,
RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA Brownstein M.J., Udwin T.B., Toshiyuki S., Carninci P., Prange C.,
RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA Bosak S.A., McSwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Villalón D.K., Murthy D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA Fahey J., Helton E., Kettman M., Madan A., Rodriguez S., Sanchez A.,
RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smalhus D.E.,
RA Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;
RT "Generation and initial analysis of more than 15,000 full-length human

GenCore version 5.1.6
Copyright (c) 1993 - 2005 CompuGen Ltd.

OM protein - protein search, using sw model

Run on: December 2, 2005, 05:57:31 ; Search time 165 Seconds
(without alignments)
22.791 Million cell updates/sec

Title: US-10-603-566A-61
Perfect score: 51
Sequence: 1 YFPGQFAPS 9

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1867569 seqs, 417829326 residues

Total number of hits satisfying chosen parameters: 1867569

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Published Applications AA.Main:
1: /cgn2_6/protdata/1/pubpaa/US07_PUBCOMB.pep.*
2: /cgn2_6/protdata/1/pubpaa/US08_PUBCOMB.pep.*
3: /cgn2_6/protdata/1/pubpaa/US09_PUBCOMB.pep.*
4: /cgn2_6/protdata/1/pubpaa/US10_PUBCOMB.pep.*
5: /cgn2_6/protdata/1/pubpaa/US10B_PUBCOMB.pep.*
6: /cgn2_6/protdata/1/pubpaa/US11_PUBCOMB.pep.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	51	100.0	9	4	US-10-603-566-61
2	51	100.0	9	5	US-10-893-485-61
3	51	100.0	10	4	US-10-603-566-62
4	51	100.0	10	5	US-10-893-485-62
5	51	100.0	11	4	US-10-603-566-85
6	51	100.0	11	5	US-10-893-485-85
7	51	100.0	12	4	US-10-603-566-63
8	51	100.0	12	5	US-10-893-485-63
9	51	100.0	13	4	US-10-603-566-64
10	51	100.0	13	5	US-10-893-485-64
11	51	100.0	15	4	US-10-603-566-84
12	51	100.0	15	5	US-10-893-485-84
13	51	100.0	17	4	US-10-603-566-83
14	51	100.0	17	5	US-10-893-485-83
15	51	100.0	18	3	US-09-905-253A-31
16	51	100.0	18	4	US-10-201-187-31
17	51	100.0	19	4	US-10-603-566-22
18	51	100.0	19	4	US-10-603-566-53
19	51	100.0	19	5	US-10-893-485-22
20	51	100.0	19	5	US-10-893-485-53
21	51	100.0	20	4	US-10-603-566-54
22	51	100.0	20	5	US-10-893-485-54
23	51	100.0	25	4	US-10-603-566-52
24	51	100.0	25	5	US-10-893-485-52
25	51	100.0	137	4	US-10-603-566-14
26	51	100.0	137	5	US-10-893-485-14
27	51	100.0	143	4	US-10-603-566-12

ALIGNMENTS

RESULT 1

US-10-603-566-61
; Sequence 61, Application US/10603566
; Publication No. US20040086966A1
; GENERAL INFORMATION:
; APPLICANT: Wittamer, Valerie
; APPLICANT: Communi, David
; APPLICANT: Vandenberghe, Ann
; APPLICANT: Dethoux, Michel
; APPLICANT: Parmentier, Marc
; TITLE OF INVENTION: Compositions and Methods Comprising a Ligand of ChemerinR
; FILE REFERENCE: 9409/2212
; CURRENT APPLICATION NUMBER: US/10/603,566
; CURRENT FILING DATE: 2003-06-25
; PRIOR APPLICATION NUMBER: US 60/303,858
; PRIOR FILING DATE: 2001-07-09
; PRIOR APPLICATION NUMBER: US 09/905,253
; PRIOR FILING DATE: 2001-07-13
; PRIOR APPLICATION NUMBER: US 10/201,187
; PRIOR FILING DATE: 2001-07-23
; NUMBER OF SEQ ID NOS: 91
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 61
; LENGTH: 9
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-603-566-61

Query Match 100.0%; Score 51; DB 4; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.7e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YFPGQFAPS 9
|||
Db 1 YFPGQFAPS 9

RESULT 2

US-10-893-485-61
; Sequence 61, Application US/10893485
; Publication No. US2005015090A1
; GENERAL INFORMATION:
; APPLICANT: Wittamer, Valerie
; APPLICANT: Communi, David
; APPLICANT: Vandenberghe, Ann
; APPLICANT: Dethoux, Michel
; APPLICANT: Parmentier, Marc
; TITLE OF INVENTION: Compositions and Methods Comprising a Ligand of ChemerinR
; FILE REFERENCE: 9409/2045C
; CURRENT APPLICATION NUMBER: US/10/893,485

28 51 100.0 143 5 US-10-893-485-12 Sequence 12, Appl
29 51 100.0 157 4 US-10-201-187-48 Sequence 48, Appl
30 51 100.0 157 4 US-10-603-566-73 Sequence 73, Appl
31 51 100.0 157 5 US-10-893-485-73 Sequence 73, Appl
32 51 100.0 160 3 US-09-925-301-945 Sequence 945, App
33 51 100.0 163 3 US-09-905-253A-8 Sequence 8, Appl
34 51 100.0 163 4 US-10-201-187-8 Sequence 8, Appl
35 51 100.0 163 4 US-10-603-566-8 Sequence 8, Appl
36 51 100.0 163 5 US-10-626-686-17 Sequence 17, Appl
37 51 100.0 163 5 US-10-965-898-66 Sequence 66, Appl
38 51 100.0 163 5 US-10-893-485-8 Sequence 8, Appl
39 51 100.0 163 5 US-10-756-143-4779 Sequence 4779, Ap
40 51 100.0 163 5 US-10-958-527-5 Sequence 5, Appl
41 48 94.1 9 4 US-10-603-566-71 Sequence 71, Appl
42 48 94.1 9 5 US-10-893-485-71 Sequence 71, Appl
43 47 92.2 9 5 US-10-893-485-97 Sequence 97, Appl
44 47 92.2 13 4 US-10-603-566-91 Sequence 91, Appl
45 47 92.2 13 5 US-10-893-485-91 Sequence 91, Appl

20050084936